ISAT US Inc.
FCC Form 312
Exhibit C
Radiation Hazard Analysis

1.0 Introduction

This Exhibit analyzes the non-ionizing radiation levels for the earth stations included in this application. The analysis and calculations performed in this Exhibit comply with the methods described in the FCC Office of Engineering and Technology Bulletin, No. 65 first published in 1985 and revised in 1997 in Edition 97-01.

Bulletin No. 65 and the FCC R&O 96-326 specifies two Maximum Permissible Exposure (MPE) limits that are dependent on the situation in which the exposure takes place and/or the status of the individuals who are subject to the exposure. These are described below:

• General Population/Uncontrolled environment MPE limit is 1 mW/cm^2. The General Population / Uncontrolled MPE is a function of transmit frequency and is for an exposure period of thirty minutes or less.

• Occupational/Controlled environment MPE limit is 5 mW/cm^2. The Occupational MPE is a function of transmit frequency and is for an exposure period of six minutes or less.

The analysis determined the power flux density levels of the earth station in the 1) far-field, 2) near-field, 3) transition region, 4) region between the feed and main reflector surface, 5) at the main reflector surface, and 6) between the antenna edge and the ground. The summary of results and discussion is provided in Section 2 and the detailed analyses are provided in Section 3.

Section 2.0 – Summary of Results

The terminals proposed in this application are for commercial and government uses and intended to be operated by professional personnel. The analysis of the non-ionizing radiation levels provided in Section 3 assumed the maximum allowed input power to antenna of 5W and a 100% duty cycle resulting in worst case radiation levels. In a significant number of deployments the terminals duty cycle would be below 100% and the actual power required would be lower than the 5W maximum resulting in lower radiation levels than those calculated. As with any directional antenna the maximum level of non-ionizing radiation is in the main beam of the antenna that is pointed to the satellite. As one moves around the antenna to the side lobes and back lobes the radiation levels decrease significantly. Thus, the maximum radiation level from an antenna occurs in a limited area in the direction the antenna is pointed to. The terminals proposed in this application are designed to cease transmitting if the receive signal from the satellite is blocked, which could be caused by a person standing in front of the terminal or from other blockage. If the receive signal is blocked, the transmitter is shut down and will not resume operating until the signal from the satellite is reacquired. This operational feature of the terminal minimizes the potential for human radiation exposure. The terminals will be turned off prior to any maintenance being conducted when a person may need to be in close proximity to the feed flange and main reflector.

The Tables below summarize the result for each antenna terminal type. As shown all but the two smaller antenna terminals meet the controlled environment limit of ≤ 5 mW/cm^2 except at the feed flange. For the two smaller antennas the level is also exceeded at the main reflector. In a controlled environment technicians are trained and procedures are put in place to ensure that a safe distance is maintained from the antenna while in operation. These procedures can include fencing around the

terminal, limits on the operation of the terminal, warning signs and other means of alerting workers, as appropriate, for the specific deployment scenario.

The terminals when operating with maximum input power and a 100% duty cycle vary in meeting the uncontrolled environment limit of ≤ 1 mW/cm^2. For the 1.8 m antenna the limit is met except at the feed flange, however for most of the other antennas the level is exceeded except in the far field. As described above the maximum radiation levels occur in a limited area in the direction the antenna is pointed to and the automatic shut off capability of the terminal when the satellite receive signal is blocked will reduce potential human exposure. In addition, the terminals proposed in this application are for commercial and government use and, given the price points, are not intended to be used by consumers or widely deployed for use by the general public. Personnel operating these terminals will be trained in how to operate the terminal safely. Furthermore, the manuals for these terminals will explicitly indicate that precautions, such has not standing in front of the terminal, that are necessary to limit potential exposure. The terminals will also clearly be marked to ensure that the terminal operator and the general public are aware of the potential radiation exposure and the need to avoid physical proximity to the terminal. It is noted that the highest radiation levels are at the feed flange and main reflector. The feed flange is a very small area of the terminal antenna and it is extremely unlikely that a person would be near the feed flange or the main reflector while the terminal is in operation. Any blockage of the signal from the satellite in these areas would cause the terminal to cease transmitting until the blockage is removed and the signal from the satellite is reacquired.

Cobham 3075 & 5075

Region	Distance (m)	Calculated Power Density (mW/cm2)	Limit Controlled Environment ≤ 5 mW/cm2	Limit Uncontrolled Environment ≤ 1 mW/cm2
Near Field	13.7	2.3	Meets Limit	Exceeds Limit
Far Field	32.9	1.0	Meets Limit	Meets Limit
Transition Region	13.7	2.3	Meets Limit	Exceeds Limit
Feed Flange	NA	1370.9	Exceeds Limit	Exceeds Limit
Main Reflector	NA	4.7	Meets Limit	Exceeds Limit

Cobham 7100

Region	Distance (m)	Calculated Power Density (mW/cm2)	Limit Controlled Environment ≤ 5 mW/cm2	Limit Uncontrolled Environment ≤ 1 mW/cm2
Near Field	25.0	1.6	Meets Limit	Exceeds Limit
Far Field	60.0	0.7	Meets Limit	Meets Limit
Transition Region	25.0	1.6	Meets Limit	Exceeds Limit
Feed Flange	NA	698.0	Exceeds Limit	Exceeds Limit
Main Reflector	NA	2.5	Meets Limit	Exceeds Limit

L3 Cheetah II

Region	Distance (m)	Calculated Power Density (mW/cm2)	Limit Controlled Environmen ≤ 5 mW/cm2	Limit Uncontrolled Environment ≤ 1 mW/cm2

Near Field	18.1	2.4	Meets Limit	Exceeds Limit
Far Field	43.4	1.0	Meets Limit	Meets Limit
Transition Region	18.1	2.4	Meets Limit	Exceeds Limit
Feed Flange	NA	873.3	Exceeds Limit	Exceeds Limit
Main Reflector	NA	3.5	Meets Limit	Exceeds Limit

L3 Hawkeye III Lite

Region	Distance (m)	Calculated Power Density (mW/cm2)	Limit Controlled Environment ≤ 5 mW/cm2	Limit Uncontrolled Environment ≤ 1 mW/cm2
Near Field	36.0	1.1	Meets Limit	Exceeds Limit
Far Field	86.4	0.5	Meets Limit	Meets Limit
Transition Region	36.0	1.1	Meets Limit	Exceeds Limit
Feed Flange	NA	873.3	Exceeds Limit	Exceeds Limit
Main Reflector	NA	1.8	Meets Limit	Exceeds Limit

Paradigm/SWT Connect 70

Region	Distance (m)	Calculated Power Density (mW/cm2)	Limit Controlled Environment ≤ 5 mW/cm2	Limit Uncontrolled Environment ≤ 1 mW/cm2
Near Field	12.1	3.3	Meets Limit	Exceeds Limit
Far Field	29.0	1.4	Meets Limit	Exceeds Limit
Transition Region	12.1	3.3	Meets Limit	Exceeds Limit
Feed Flange	NA	679.9	Exceeds Limit	Exceeds Limit
Main Reflector	NA	5.3	Exceeds Limit	Exceeds Limit

SWT ATOM 65/GX/01 ATOM 65AAGX/01

Region	Distance (m)	Calculated Power Density (mW/cm2)	Limit Controlled Environment ≤ 5 mW/cm2	Limit Uncontrolled Environment ≤ 1 mW/cm2
Near Field	10.6	2.8	Meets Limit	Exceeds Limit
Far Field	25.4	1.2	Meets Limit	Exceeds Limit
Transition Region	10.6	2.8	Meets Limit	Exceeds Limit
Feed Flange	NA	1471.5	Exceeds Limit	Exceeds Limit
Main Reflector	NA	6.0	Exceeds Limit	Exceeds Limit

Paradigm/SWT Connect 100, 100T, Sky 98

Region	Distance (m)	Calculated Power Density (mW/cm2)	Limit Controlled Environment ≤ 5 mW/cm2	Limit Uncontrolled Environment ≤ 1 mW/cm2

Near Field	21.8	1.5	Meets Limit	Exceeds Limit
Far Field	52.3	0.6	Meets Limit	Meets Limit
Transition Region	21.8	1.5	Meets Limit	Exceeds Limit
Feed Flange	NA	679.9	Exceeds Limit	Exceeds Limit
Main Reflector	NA	2.9	Meets Limit	Exceeds Limit

Paradigm/SWT Connect 180, Sky 180GX/01

Region	Distance (m)	Calculated Power Density (mW/cm2)	Limit Controlled Environment ≤ 5 mW/cm2	Limit Uncontrolled Environment ≤ 1 mW/cm2
Near Field	81.0	0.5	Meets Limit	Meets Limit
Far Field	194.4	0.2	Meets Limit	Meets Limit
Transition Region	81.0	0.5	Meets Limit	Meets Limit
Feed Flange	NA	1327.4	Exceeds Limit	Exceeds Limit
Main Reflector	NA	0.8	Meets Limit	Meets Limit

Section 3.0 – Detailed calculations

3.1 Cobham 3075/5075

"Input Parameters" Table from page 51

Input Parameter	Value	Units	Symbol
Antenna Diameter	0.74	m	D
Antenna Transmit Gain	44.2	dBi	G
Transmit Frequency	30000	MHz	f
Antenna Feed Flange Diameter	4.31	cm	d
Power Input to the Antenna	5	Watts	P

"Calculated Parameters" table from page 52

Calculated Parameter	Value	Units	Symbol	Formula
Antenna Surface Area	0.4301	m^2	A	$\pi D^2/4$
Area of Antenna Flange	14.5892	cm^2	a	$\pi d^2/4$
Antenna Efficiency	0.4867	real	η	$g\lambda^2/(\pi^2 D^2)$
Gain Factor	26302.6799	real	g	10^(G/10)
Wavelength	0.0100	m	λ	300/f

"Antenna Field Definitions" table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Near-Field Distance	13.69	m	Rnf	$D^2/(4\lambda)$
Distance to Far-Field	32.856	m	Rff	$0.6D^2/\lambda$
Distance of Transition Range	13.69	m	Rt	Rt=Rnf

Power Flux Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density in the Near Field	2.2634	mW/cm^2	Snf	$16\eta P/(\pi D^2)$
Power Density in the Far Field	0.9695	mW/cm^2	Sff	$gP/(4\pi Rff^2)$
Power Density in the Transition Region	2.2634	mW/cm^2	St	Snf*Rnf/Rt

Flange Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density at the Feed Flange	1370.8767	mW/cm^2	Sfa	4P/a

Main Reflector Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density at Main Reflector	4.6504	mW/cm^2	Ssurface	4P/A

Main Reflector Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density between Reflector and Ground	1.1626	mW/cm^2	Sg	P/A

3.2 Cobham 7100

"Input Parameters" Table from page 51

Input Parameter	Value	Units	Symbol
Antenna Diameter	1	m	D
Antenna Transmit Gain	47.9	dBi	G
Transmit Frequency	30000	MHz	f
Antenna Feed Flange Diameter	6.04	cm	d
Power Input to the Antenna	5	Watts	P

"Calculated Parameters" table from page 52

Calculated Parameter	Value	Units	Symbol	Formula
Antenna Surface Area	0.7854	m^2	A	$\pi D^2/4$
Area of Antenna Flange	28.6517	cm^2	a	$\pi d^2/4$
Antenna Efficiency	0.6248	real	η	$g\lambda^2/(\pi^2 D^2)$
Gain Factor	61659.5002	real	g	10^(G/10)
Wavelength	0.0100	m	λ	300/f

"Antenna Field Definitions" table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Near-Field Distance	25.0	m	Rnf	$D^2/(4\lambda)$
Distance to Far-Field	60.0	m	Rff	$0.6D^2/\lambda$
Distance of Transition Range	25.0	m	Rt	Rt=Rnf

Power Flux Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density in the Near Field	1.5910	mW/cm^2	Snf	$16\eta P/(\pi D^2)$
Power Density in the Far Field	0.6815	mW/cm^2	Sff	$gP/(4\pi Rff^2)$
Power Density in the Transition Region	1.5910	mW/cm^2	St	Snf*Rnf/Rt

Flange Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density at the Feed Flange	698.0380	mW/cm^2	Sfa	4P/a

Main Reflector Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density at Main Reflector	2.5466	mW/cm^2	Ssurface	4P/A

Main Reflector Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density between Reflector and Ground	0.6366	mW/cm^2	Sg	P/A

3.3 L3 Cheetah II

"Input Parameters" Table from page 51

Input Parameter	Value	Units	Symbol
Antenna Diameter	0.85	m	D
Antenna Transmit Gain	46.8	dBi	G
Transmit Frequency	30000	MHz	f
Antenna Feed Flange Diameter	5.4	cm	d
Power Input to the Antenna	5	Watts	P

"Calculated Parameters" table from page 52

Calculated Parameter	Value	Units	Symbol	Formula
Antenna Surface Area	0.5674	m^2	A	$\pi D^2/4$
Area of Antenna Flange	22.9015	cm^2	a	$\pi d^2/4$
Antenna Efficiency	0.6713	real	η	$g\lambda^2/(\pi^2 D^2)$
Gain Factor	47863.0092	real	g	10^(G/10)
Wavelength	0.0100	m	λ	300/f

"Antenna Field Definitions" table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Near-Field Distance	18.0625	m	Rnf	$D^2/(4\lambda)$
Distance to Far-Field	43.35	m	Rff	$0.6D^2/\lambda$
Distance of Transition Range	18.0625	m	Rt	Rt=Rnf

Power Flux Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density in the Near Field	2.3659	mW/cm^2	Snf	$16\eta P/(\pi D^2)$
Power Density in the Far Field	1.0134	mW/cm^2	Sff	$gP/(4\pi Rff^2)$
Power Density in the Transition Region	2.3659	mW/cm^2	St	Snf*Rnf/Rt

Flange Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density at the Feed Flange	873.3039	mW/cm^2	Sfa	4P/a

Main Reflector Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density at Main Reflector	3.5246	mW/cm^2	Ssurface	4P/A

Main Reflector Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density between Reflector and Ground	0.8812	mW/cm^2	Sg	P/A

3.4 L3 Hawkeye III

"Input Parameters" Table from page 51

Input Parameter	Value	Units	Symbol
Antenna Diameter	1.2	m	D
Antenna Transmit Gain	49.4	dBi	G
Transmit Frequency	30000	MHz	f
Antenna Feed Flange Diameter	5.4	cm	d
Power Input to the Antenna	5	Watts	P

"Calculated Parameters" table from page 52

Calculated Parameter	Value	Units	Symbol	Formula
Antenna Surface Area	1.1309	m^2	A	$\pi D^2/4$
Area of Antenna Flange	22.9015	cm^2	a	$\pi d^2/4$
Antenna Efficiency	0.6129	real	η	$g\lambda^2/(\pi^2 D^2)$
Gain Factor	87096.359	real	g	10^(G/10)
Wavelength	0.0100	m	λ	300/f

"Antenna Field Definitions" table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Near-Field Distance	36	m	Rnf	$D^2/(4\lambda)$
Distance to Far-Field	86.4	m	Rff	$0.6D^2/\lambda$
Distance of Transition Range	36	m	Rt	Rt=Rnf

Power Flux Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density in the Near Field	1.0838	mW/cm^2	Snf	$16\eta P/(\pi D^2)$
Power Density in the Far Field	0.4642	mW/cm^2	Sff	$gP/(4\pi Rff^2)$
Power Density in the Transition Region	1.0838	mW/cm^2	St	Snf*Rnf/Rt

Flange Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density at the Feed Flange	873.3039	mW/cm^2	Sfa	4P/a

Main Reflector Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density at Main Reflector	1.7684	mW/cm^2	Ssurface	4P/A

Main Reflector Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density between Reflector and Ground	0.4421	mW/cm^2	Sg	P/A

3.5 Paradigm/SWT Connect 70

"Input Parameters" Table from page 51

Input Parameter	Value	Units	Symbol
Antenna Diameter	0.695	m	D
Antenna Transmit Gain	44.8	dBi	G
Transmit Frequency	30000	MHz	f
Antenna Feed Flange Diameter	6.12	cm	d
Power Input to the Antenna	5	Watts	P

"Calculated Parameters" table from page 52

Calculated Parameter	Value	Units	Symbol	Formula
Antenna Surface Area	0.3794	m^2	A	$\pi D^2/4$
Area of Antenna Flange	29.4157	cm^2	a	$\pi d^2/4$
Antenna Efficiency	0.6335	real	η	$g\lambda^2/(\pi^2 D^2)$
Gain Factor	30199.5172	real	g	10^(G/10)
Wavelength	0.0100	m	λ	300/f

"Antenna Field Definitions" table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Near-Field Distance	12.075625	m	Rnf	$D^2/(4\lambda)$
Distance to Far-Field	28.9815	m	Rff	$0.6D^2/\lambda$
Distance of Transition Range	12.075625	m	Rt	Rt=Rnf

Power Flux Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density in the Near Field	3.3399	mW/cm^2	Snf	$16\eta P/(\pi D^2)$
Power Density in the Far Field	1.4306	mW/cm^2	Sff	$gP/(4\pi Rff^2)$
Power Density in the Transition Region	3.3399	mW/cm^2	St	Snf*Rnf/Rt

Flange Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density at the Feed Flange	679.9079	mW/cm^2	Sfa	4P/a

Main Reflector Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density at Main Reflector	5.2721	mW/cm^2	Ssurface	4P/A

Main Reflector Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density between Reflector and Ground	1.3180	mW/cm^2	Sg	P/A

3.6 SWT ATOM 65/GX/01 ATOM 65AAGX/01

"Input Parameters" Table from page 51

Input Parameter	Value	Units	Symbol
Antenna Diameter	0.65	m	D
Antenna Transmit Gain	42.8	dBi	G
Transmit Frequency	30000	MHz	f
Antenna Feed Flange Diameter	4.16	cm	d
Power Input to the Antenna	5	Watts	P

"Calculated Parameters" table from page 52

Calculated Parameter	Value	Units	Symbol	Formula
Antenna Surface Area	0.3318	m^2	A	$\pi D^2/4$
Area of Antenna Flange	13.5914	cm^2	a	$\pi d^2/4$
Antenna Efficiency	0.4570	real	η	$g\lambda^2/(\pi^2 D^2)$
Gain Factor	19054.6072	real	g	10^(G/10)
Wavelength	0.0100	m	λ	300/f

"Antenna Field Definitions" table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Near-Field Distance	10.5625	m	Rnf	$D^2/(4\lambda)$
Distance to Far-Field	25.35	m	Rff	$0.6D^2/\lambda$
Distance of Transition Range	10.5625	m	Rt	Rt=Rnf

Power Flux Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density in the Near Field	2.7544	mW/cm^2	Snf	$16\eta P/(\pi D^2)$
Power Density in the Far Field	1.1798	mW/cm^2	Sff	$gP/(4\pi Rff^2)$
Power Density in the Transition Region	2.7544	mW/cm^2	St	Snf*Rnf/Rt

Flange Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density at the Feed Flange	1471.5203	mW/cm^2	Sfa	4P/a

Main Reflector Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density at Main Reflector	6.0273	mW/cm^2	Ssurface	4P/A

Main Reflector Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density between Reflector and Ground	1.5068	mW/cm^2	Sg	P/A

3.7 Paradigm/SWT Connect 100, 100T, Sky 98

"Input Parameters" Table from page 51

Input Parameter	Value	Units	Symbol
Antenna Diameter	0.934	m	D
Antenna Transmit Gain	46.5	dBi	G
Transmit Frequency	30000	MHz	f
Antenna Feed Flange Diameter	6.12	cm	d
Power Input to the Antenna	5	Watts	P

"Calculated Parameters" table from page 52

Calculated Parameter	Value	Units	Symbol	Formula
Antenna Surface Area	0.6851	m^2	A	$\pi D^2/4$
Area of Antenna Flange	29.4157	cm^2	a	$\pi d^2/4$
Antenna Efficiency	0.5188	real	η	$g\lambda^2/(\pi^2 D^2)$
Gain Factor	44668.3592	real	g	10^(G/10)
Wavelength	0.0100	m	λ	300/f

"Antenna Field Definitions" table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Near-Field Distance	21.8089	m	Rnf	$D^2/(4\lambda)$
Distance to Far-Field	52.34136	m	Rff	$0.6D^2/\lambda$
Distance of Transition Range	21.8089	m	Rt	Rt=Rnf

Power Flux Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density in the Near Field	1.5146	mW/cm^2	Snf	$16\eta P/(\pi D^2)$
Power Density in the Far Field	0.6488	mW/cm^2	Sff	$gP/(4\pi Rff^2)$
Power Density in the Transition Region	1.5146	mW/cm^2	St	Snf*Rnf/Rt

Flange Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density at the Feed Flange	679.9079	mW/cm^2	Sfa	4P/a

Main Reflector Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density at Main Reflector	2.9192	mW/cm^2	Ssurface	4P/A

Main Reflector Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density between Reflector and Ground	0.7298	mW/cm^2	Sg	P/A

3.8 Paradigm/SWT Connect 180, Sky 180

"Input Parameters" Table from page 51

Input Parameter	Value	Units	Symbol
Antenna Diameter	1.8	m	D
Antenna Transmit Gain	52.4	dBi	G
Transmit Frequency	30000	MHz	f
Antenna Feed Flange Diameter	4.38	cm	d
Power Input to the Antenna	5	Watts	P

"Calculated Parameters" table from page 52

Calculated Parameter	Value	Units	Symbol	Formula
Antenna Surface Area	2.5446	m^2	A	$\pi D^2/4$
Area of Antenna Flange	15.0669	cm^2	a	$\pi d^2/4$
Antenna Efficiency	0.5435	real	η	$g\lambda^2/(\pi^2 D^2)$
Gain Factor	173780.0829	real	g	10^(G/10)
Wavelength	0.0100	m	λ	300/f

"Antenna Field Definitions" table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Near-Field Distance	81	m	Rnf	$D^2/(4\lambda)$
Distance to Far-Field	194.4	m	Rff	$0.6D^2/\lambda$
Distance of Transition Range	81	m	Rt	Rt=Rnf

Power Flux Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density in the Near Field	0.4272	mW/cm^2	Snf	$16\eta P/(\pi D^2)$
Power Density in the Far Field	0.1830	mW/cm^2	Sff	$gP/(4\pi Rff^2)$
Power Density in the Transition Region	0.4272	mW/cm^2	St	Snf*Rnf/Rt

Flange Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density at the Feed Flange	1327.4088	mW/cm^2	Sfa	4P/a

Main Reflector Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density at Main Reflector	0.7860	mW/cm^2	Ssurface	4P/A

Main Reflector Power Density table from page 54

Calculated Parameter	Value	Units	Symbol	Formula
Power Density between Reflector and Ground	0.1965	mW/cm^2	Sg	P/A